

HEPAP Human Resources Study

Status Report

Presentation at the HEPAP Meeting
February 14, 2005

Jim Whitmore

Glen Crawford

Chip Brock

The issue:

- We have a rich physics program involving two categories of experiments during the 2004-2009 timeframe: those either currently running or those coming on line. It is essential that we plan to fulfill these obligations through to publication of physics results. The first step to developing such a plan is a careful understanding of our physicist resources.
- Accordingly, at the April 2004 HEPAP meeting, a basic question was asked: “Does the field have the people to adequately carry out the experiments to which it is committed until the end of the decade?”

The Action:

- Fred appointed a Working Group comprised of:
- Young-Kee Kim John Womersley
- Howard Gordon Joel Butler
- Sekhar Chivukula Usha Mallik
- Bill Molzon

- With Chip Brock and Glen Crawford and
- Jim Whitmore as co-Chair persons

The issue: (letter to each PI)

- To answer this question, each university and laboratory group was requested to give its plan for the distribution of faculty/staff/postdocs/students among the various projects with which they are involved for each year through 2009. The funding assumption is constant level of effort, starting with 2004 as the base year.
- These data will be compared with those supplied by the relevant collaborations, who will each be asked for their minimum year-by-year manpower needs. In addition, for on-shore experiments, their year-by-year expected U.S. and non-U.S. contributions will be requested.
- Respond to this request by September 30, 2004.

Response from these NSF PIs:

Michigan State (4)
Ohio State U (2)
U. of Rochester (2)
Occidental Coll
California Tech
U. of Minnesota-Duluth
University of Montana
Case Western Reserve U
Virginia Tech
U. of Cincinnati
Stony Brook (2)
New York University
Stanford University (3)
George Mason University
Bucknell University
U. California-Irvine (3)
Rutgers University
U. of California, Santa Cruz

Columbia University (3)
Penn State (2)
Stanford University
University of Nebraska
U. California, Riverside
Alfred University
University of Maryland (2)
Brown University
Cornell U. / LEPP
University of Chicago
Johns Hopkins University
U. of Illinois at Chicago
Vanderbilt University
University of Kansas
Syracuse University
Northeastern University
University of Notre Dame

Hampton U. (2)
Wayne State U (2)
University of Chicago
University of Utah (2)
Northern Illinois U
U. of Houston
U. of So California
U. of Washington
Yale U.
University of Illinois
Barnard College
Rice
UCLA (3)
U.C. Berkeley
Illinois Inst of Tech
RP Institute
Cal State at DH

6 PIs did not respond yet

Response from these DOE PIs:

| | | |
|---------------------------|-----------------------------|---------------------------|
| Argonne National Lab | Boston University | Brandeis University (2) |
| Brookhaven N Lab. (3) | Bucknell University | Cal Tech. (2) |
| Carnegie Mellon U | Case Western RU. | Coll of William and Mary |
| Colorado State University | Colorado University | Columbia University |
| Cornell University | DOE | Duke University (3) |
| Fermilab (2) | Florida Inst of Tech | Florida State University |
| Harvard University (2) | Illinois Inst of Technology | Indiana University(2) |
| Inst for Advanced Study | Iowa State University (3) | Langston University |
| Lawrence Berkeley NLab. | LSU | Michigan State University |
| Michigan Tech U | MIT (2) | Mount Holyoke College |
| NIST, Boulder, CO | Navel Research Lab | Northwestern University |
| Notre Dame (2) | Ohio State University (2) | Princeton University (3) |
| Purdue University (2) | Rockefeller University | SFSU |
| Southern Methodist U | Stanford University | STI Optronics, Inc. |
| SUNY at Binghamton | Temple University | Texas A&M University |
| The University of Iowa | Tufts University | UC Santa Barbara |

Response from these DOE PIs:

| | | |
|----------------------------|---------------------------|-----------------------------|
| UCLA (3) | University of Arizona | UC – Berkeley |
| UC - San Diego | UC - Santa Cruz (2) | UC - Irvine |
| UC - Riverside | University of Chicago (3) | University of Cincinnati |
| University of Colorado (3) | University of Connecticut | University of Florida |
| University of Hawaii | U of Illinois at UC (2) | U of Illinois at Chicago |
| University of Kansas | University of Louisville | U Mass, Amherst |
| University of Michigan (3) | Univ of Minnesota (2) | University of Mississippi |
| Univ of New Mexico (3) | Univ of NC at Chapel Hill | University of Oregon (2) |
| University of Pittsburgh | Univ of Rochester (2) | Univ of South Carolina |
| Univ of Southern Cal | Univ of Tennessee (2) | Univ of Texas at Austin |
| University of Virginia | Univ of Washington (2) | University of Wisconsin (4) |
| Vanderbilt University | Virginia Tech | Washington U in St. Louis |
| Wayne State University | Yale University | |

29 PIs did not respond yet

The issue: (letter to each Expt)

- This message is the complementary survey of experiments for an evaluation of their needs for the same time period: What are the required levels of effort needed to keep your experiment running and producing physics results/publications through FY2009.
- Please assess your needs to maintain and operate your experiment at a realistic minimum level of effort. There are two emphases in this assessment: a reasonably precise accounting of the current effort within your experiment (the FY2004 numbers) and an accurate estimate of your experiment's needs for out-years. In order to be concise, we're trying to assess these needs within two broad areas:

(Letter to each expt, cont.)

- a) Maintenance and Operations, largely focused on data-taking operations with respect to detectors and beams; and
 - b) Data Analysis
 - Respond to this request by September 30, 2004.
-
- All current responses are listed on FAQ webpage:

http://www.pa.msu.edu/~brock/file_sharing/FAQ_survey.htm

Form sent to all Experiments

EXP

Responder

Date

| <i>ACTUAL</i> | Personnel | FY 04 | <i>NEEDED</i> Personnel | FY 05 | FY 06 | FY 07 | FY 08 | FY 09 |
|---------------------|--|-------|----------------------------------|-------|-------|-------|-------|-------|
| <i>operations</i> | FTE Fac -US institution | # | TOTAL FTE Fac | # | # | etc | | |
| | FTE host lab staff | # | | | | | | |
| | FTE Fac/staff foreign inst | # | | | | | | |
| <i>operations</i> | FTE PD -US institution | # | TOTAL FTE PD | # | # | etc | | |
| | FTE PD -host lab | # | | | | | | |
| | FTE PD -foreign institutes | # | | | | | | |
| <i>operations</i> | FTE GS -US institution | # | TOTAL FTE GS | # | # | etc | | |
| | FTE GS -foreign institutes | # | | | | | | |
| | TOTAL OPERATIONS | # | TOTAL OPS | # | # | etc | | |
| | | | (expected precision $\pm 10\%$) | | | | | |
| <i>analysis</i> | FTE Fac -US institutions | # | TOTAL FTE Fac | # | # | etc | | |
| | FTE host lab physics staff | # | | | | | | |
| | FTE Fac/staff foreign institutes | # | | | | | | |
| <i>analysis</i> | similarly as for operations (above) for FTE PD and GS | | | | | | | |
| <i>FTE checksum</i> | total faculty/staff | # | total faculty/staff | # | # | etc | | |
| <i>FTE checksum</i> | total PD | # | total PD | # | # | etc | | |
| <i>FTE checksum</i> | total GS | # | total GS | # | # | etc | | |

major tasks: 2005: upgrade installation, which involves an increase in FTE post docs by 2

major tasks: 2006: upgrade complete;

major tasks: 2007 – 2009 :

Any general comments:

Response from these Expts:

At FNAL

Dzero Jerry Blazey

HyperCP (E871) Craig Dukes

BTeV Joel Butler

Minerva (E938) K. McFarland

At SLAC

BaBar David MacFarlane

At BNL

MECO Bill Molzon

At Cornell

CLEO-c Jim Alexander/Ian Shipsey

Other

VERITAS T. Weekes

SNAP/JDEM Loken, Stewart

K2K / SuperK H. Sobel

CMS Dan Green/Bob Cousins

STACEE Rene Ong

LIGO Peter Saulson

ATLAS Bill Willis/Howard Gordon

21 Experiments did not respond

Summary

- For the experiments
- Sent out 35 requests, rec'd 14 responses
- **40%**

- For the NSF PIs:
- Sent out 78 requests, rec'd 72 responses
- **92.3%**

- For the DOE non-theory, non-tech PIs:
- Sent out 89 requests, rec'd 60 responses
- **67.4%**

Current Issues

- Some institutions have sent in two (or more) responses and some PIs responded to both NSF and DOE – need to check
- Need to follow up on non-responders (PI and expts)
- Need to check each response for internal consistency – some DOE theory groups responded
- We are working on a program to collate all responses (in Excel)

Next steps

- Questions (for each year 2004-2009):
- From PI response: for each listed expt (current and planned), sum the total personnel (in each category; faculty, gs, etc)
- From Expt response: for current expts, compare the above (PI response) numbers with their needs (in 2004, at least there is a check)
- From Expt response: for planned expts, examine carefully their needs and compare with PI response
- We would welcome specific questions from you:
- Please send to hepexp@pa.msu.edu

Summary

- We are a “bit” behind in collecting the data, but nearly there. The experiments, in particular, have not been very responsive.
- We realize the need for these data and will process them asap (we have had volunteers to help on this from the working group as soon as the data are complete).